



Characterisation and Ranking of the Homogeneity of Glasses

Jensen, Martin; Zhang, L.; Keding, Ralf; Yue, Yuanzheng

Publication date:
2011

Document Version
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Jensen, M., Zhang, L., Keding, R., & Yue, Y. (2011). *Characterisation and Ranking of the Homogeneity of Glasses*. Abstract from ICG Annual Meeting 2011 and 1st Hi-Tech International Forum on Glass, Shenzhen, China.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

Take down policy

If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

Characterisation and Ranking of the Homogeneity of Glasses

Martin Jensen^{1*}, Long Zhang², Ralf Keding¹, Yuanzheng Yue¹

¹Section of Chemistry, Aalborg University, 9000 Aalborg, Denmark

²Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science, 201800
Shanghai, China

The homogeneity of glass is a key parameter in glass technology as it controls a broad range of properties such as the mechanical and optical ones. Despite much progress in studying glass homogeneity, there is still a lack of methods that allow easy and fast quantification of the homogeneity of glass. Here we present a novel method based on image processing to characterise the striae content in various types of glasses covering industrial glasses such as container and window glass, to fluoride and oxyfluoride glasses produced at laboratory scale. The image processing method made it possible to quantify the striations in the glasses based on their size and optical intensity. The logarithmic ratio of these two characteristic parameters is used to rank the glasses according to their homogeneity. A comparison with refractive index measurements shows that the image processing method has a wider detection range and a lower statistical uncertainty. The new method has a high potential to be applied as a standard method for monitoring and controlling the quality of glass products for industry.